

# Summary of SL-3 Growth Hormone Data

## I Pituitary Growth Hormone

### A. Tibial Assay

ug/mg tissue

	<u>Large Rats</u> (means with 45% C.L.)	<u>Small Rats</u>
Preflight n	29.9 (28.0 - 31.9) (7)	25.6 (24.1 - 27.2) (6)
Sim Control n	38.4 (36.1 - 40.7) (3)	26.5 (25.6 - 27.5) (6)
Flight n	22.5 (21.2 - 23.8) (3)	19.6 (18.8 - 20.4) (6)
Viaruim n	42.9 (41.0 - 44.9) (7)	29.5 (28.4 - 30.7) (6)

Pituitaries were weighed at KSC and then homogenized with an all glass homogenizer in 5 mls 0.01M Na<sub>2</sub> CO<sub>3</sub>, diluted with isotonic sodium chloride to 1 mg tissue/ml, and then frozen at -70°C. At the time of assay the samples were thawed, vortexed, and 1 ml aliquots from each group pooled for bioassay (Greenspan, F.S., C.H. Li, M. Simpson, and H.M. Evans, Endocrinology 45: 355, 1949). Doses equal to 2/3 or 2/9 mg tissue were given to each rat (5 rats/dose). Assay rats were Bantin-Kingman females, which were hypophysectomized at 26 days of age; the bioassay was started thirteen days later (39 days of age).

# I. (cont) Pituitary GH

## B. Radioimmunoassay

	<u>Large Rats</u>	<u>Small Rats</u>
	ug/mg tissue (mean + SE)	
Preflight n	94.1 + 7.0 (7)	60.6 + 4.3 (6)
Simulation Control n	85.7 + 9.4 (3)	66.1 + 5.2 (6)
Flight n	111.5 + 32.2 (3)	72.5 + 3.0 (6)
Vivarium n	85.7 + 12.7 (7)	64.8 + 2.7 (6)

Homogenates were diluted 1:3000 and assayed at 1 dose level in duplicate. On a repeat assay 3 dose levels were used.

## II. Plasma Growth Hormone (RIA)

mug/ml  
(mean + S.E.)

	<u>Large Rats</u>	<u>Small Rats</u>
Preflight n	11.3 + 9.1 (7)	3.7 + 2.2 (12)
Simulation Control n	8.2 + 2.3 (7)	6.9 + 2.6 (12)
Flight n	5.9 + 1.5 (7)	8.5 + 4.1 (12)
Vivarium n	2.8 + 0.9 (7)	19.0 + 7.1 (12)

# Putative Growth Hormone mg hormone / mg tissue

	<u>RIA</u>	<u>BA</u>
LARGE RATS		
Pre flight (7)	$94.1 \pm 7.0$	$24.9 \pm 1.0$
↓		
anecdotal (3)	$85.7 \pm 9.4$	$38.4 \pm 1.2$
flight (3)	$111.5 \pm 32.2$	$22.5 \pm 0.7$
warrior (7)	$85.7 \pm 12.7$	$42.9 \pm 1.0$

Radiomunoassay (RIA)

Biological Assay (BA)

(Method of Guruprasad et al.  
Endocrinology 1949)

<u>Small rats</u>	<u>Pituitary GH</u>	
	<u>RIA</u>	<u>Bst</u>
preflight	$60.6 \pm 4.3$	$25.6 \pm 0.8$
warum	$64.8 \pm 2.7$	$29.5 \pm 0.6$
<del>immulation</del>	$66.1 \pm 5.2$	$26.5 \pm 0.3$
flight	$72.5 \pm 3.0$	$19.6 \pm 0.4$